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10/654,313	09/03/2003	Robert M. Guidash	86321PCW	4417

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EXAMINER
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ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/654,313	GUIDASH, ROBERT M.	
	Examiner	Art Unit	
	LUONG T. NGUYEN	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-14 and 16-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-14 and 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 4/04/2007, with respect to the rejection of claims 1, 3-6, 8-9, 11-14, 16-18 under 35 U.S.C. 102(e) as being anticipated by Morris et al. (US 6,665,010), has been fully considered but they are not persuasive.

In re page 7, Applicant argues that there is no mention or suggestion in Morris for the uniform distribution of the groups 113.

In response, regarding claim 1, the Applicant amended claim 1 with limitation "wherein the kernels are arranged in at least two different uniformly distributed sets." The Examiner considers that claim 1 as amended still does not distinguish from Morris et al. Morris et al. discloses a plurality of groups of pixels 113a, 113b, 113c, 113d, each group (each kernel) may be associated with different colors (column 3, lines 35-40); one group may 113 may associated with a red pixel color and one group 113 may be associated with a green pixel color (column 3, lines 35-40); each group includes 2x2 pixels, which corresponds to uniformly distributed sets.

In re page 7, Applicant argues that Applicant can find nothing in Morris that discloses, suggests or provides any motivation for the claimed structure of different sets of identical kernels wherein the kernels arranged in at least two different uniformly distributed sets, and the integration time for each set is different."

In response, regarding claim 1, noted that the feature "different sets of identical kernels" is not a claim language. Instead, the Applicant amended claim 1 with limitation "wherein the

kernels are arranged in at least two different uniformly distributed sets; … wherein the integration time is different for each set of the kernels." The Examiner considers that claim 1 as amended still does not distinguish from Morris et al. Morris et al. discloses a plurality of groups of pixels 113a, 113b, 113c, 113d, each group (each kernel) may be associated with different colors (column 3, lines 35-40); one group may 113 may associated with a red pixel color and one group 113 may be associated with a green pixel color (column 3, lines 35-40); each group includes 2x2 pixels (identical kernels), which corresponds to uniformly distributed sets. Morris et al., further discloses that the integration interval of each group of pixels 113a, 113b, 113c, 113d are different, column 3, lines 5-30.

In re page 7, Applicant argues that Applicant can find no structure corresponding to a sync signal that reads out pixels from two different rows. The time measuring circuit, one for each of the groups 113, is responsive to pixel sensing unit 118, when intensity exceeds a threshold level. This has nothing to do with reading out data signal values from two different rows using the same sync signal.

In response, regarding claim 8, noted that the features "a sync signal that reads out pixels from two different rows; reading out data signal values from two different rows using the same sync signal" are not claim languages. Instead, the Applicant recited claim 8 with limitation "a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array." The Examiner considers

that claim 8 as recited still does not distinguish from Morris et al. Morris et al. discloses row decoder 121 provides output signal (a sync signal) to select rows of pixel sensing unit 118 for reading out signal value, figure 5, column 7, lines 9-31. Morris et al. also discloses the decoder 121 retrieves the stored indications of the intensities from pixel sensing units 118 by selectively selecting rows of the pixel sensing units 118, figure 5, column 7, lines 9 - 31. Noted that the signal values that are generated from the array of pixel sensing units 118 (plurality of groups of 2x2 pixels 113) are transferred to output interface 128, figure 5, column 7, lines 9-31.

Claim Objections

2. Claim 16 is objected to because of the following informalities:

Claim 16 (lines 1-2), "a mechanism" should be changed to --the mechanism--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-6, 8-9, 11-14, 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Morris et al. (US 6,665,010).

Regarding claims 1, 9, Morris et al. discloses a camera (digital camera 12, figure 1, column 1, lines 8-20) comprising:

an image sensor (digital imager 140, figure 5) comprising:

a plurality of pixels (an array of pixel sensing unit 118, figure 5, column 3, lines 5-30);

a color filter pattern (one group of pixels is associated with red color or green color, figure 5, column 3, lines 30-52) spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels (group of four pixels 113a, 113b, 113c, 113d, one group has the same red pixel color, another group has the same green pixel color, figure 5, column 3, lines 5-40) having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets (each group of pixels includes 2x2 pixels and have the same color, figure 5, column 3, lines 5-40); and

(c) a mechanism for controlling integration time of the different sets of kernels according to their spatial location, wherein the integration time is different for each set of the kernels (the integration interval of each group of pixels 113a, 113b, 113c, 113d are different, column 3, lines 5-30).

Regarding claims 3, 11, Morris et al. discloses wherein the color filter pattern is a 2x2 kernel (group of four pixels, figure 5, column 3, lines 5-30).

Regarding claims 4, 12, Morris et al. discloses wherein the integration time pattern is an alternating pattern of two lines at one integration time and adjacent two lines at a second

integration time (the integration interval of each group of pixels 113a, 113b, 113c, 113d are different, column 3, lines 5-30).

Regarding claims 5, 13, Morris et al. discloses wherein the integration time for a first set of 2x2 pixels associated with a first kernel is at a first integration time, and the integration time of adjacent 2x2 kernels in the same set of two lines at a second integration time (the integration interval of each group of pixels 113a, 113b, 113c, 113d are different, column 3, lines 5-30).

Regarding claims 6, 14, Morris et al. discloses wherein the integration time pattern of adjacent two lines groups is offset by two pixels (the integration interval of each group of pixels 113a, 113b, 113c, 113d are different, and each group is offset by two pixels 118, column 3, lines 5-30).

Regarding claims 8, 17, Morris et al. discloses a camera (digital camera 12, figure 1, column 1, lines 8-20) comprising:

an image sensor (digital imager 140, figure 5) comprising:

a plurality of pixels arranged in an array of rows and columns (an array of pixel sensing unit 118, figure 5, column 3, lines 5-30);

a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row (row decoder 121 provides output signal to select rows of pixel sensing unit 118 for reading out signal value, figure 5, column 7, lines 9-31);

wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array (the signal values that are generated from the array of pixel sensing units 118 are transferred to output interface 128, figure 5, column 7, lines 9-31).

Regarding claim 16, Morris et al. discloses a mechanism that reads out at least a subset of the plurality of pixels and uses the signal values obtained from the readout to determine the integration times of the plurality of pixels (integration times for different groups of pixels are independently controlled (column 3, lines 5-50).

Regarding claim 18, Morris et al. discloses the data values are reconstructed in the camera memory (the signals that are readout from imager 140 are stored in memory 263, figure 12, column 7, lines 37-49).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. (US 6,665,010) in view of Bayer (US 3,971,065).

Regarding claims 2, 10, Morris et al. fails to specifically disclose the color filter pattern is a Bayer color filter pattern. However, Bayer teaches a color image sensing array in which color filters are arranged in a pattern (figure 1B). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Morris et al. by the teaching of Bayer in order to permit the sampling rates for all three basic color vectors are adjusted respective of the acuity of the human visual system (column 3, lines 6-10).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN LN
06/07/07

DAVID OMETZ
SUPERVISORY PATENT EXAMINER